

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A touch probe, including

[[·]] a casing [[(1)]] that defines a longitudinal geometric axis,

[[·]] a movable arm-set [[(3)]] housed in the casing [[(1)]], that defines a longitudinal symmetry axis,

[[·]] an arm [[(13)]] rigidly coupled to the movable arm-set [[(3)]], with an end extending out of the casing,

[[·]] a feeler [[(15)]] coupled to said end of the arm [[(13)]], and

[[·]] an electric switch [[(31)]] adapted for detecting displacements of the movable arm-set [[(3)]] with respect to the casing [[(1)]] and including

[[·]] a housing [[(33)]],

[[·]] at least [[a]] one stationary contact [[(44,45)]],

[[·]] a movable contact [[(51)]], and

[[·]] a mechanical transmission device [[(61)]] adapted for transmitting displacements of the movable arm-set [[(3)]] to the movable contact [[(51)]], the mechanical transmission device including

[[.]] an elongate mechanical body  
[[ (63) ]], located between the movable arm-set [[ (3) ]]  
and the movable contact [[ (51) ]], arranged and  
movable substantially along a longitudinal direction,  
and

[[.]] guide elements [[ (69-73, 77) ]]  
for cooperating with the elongate mechanical body  
[[ (63) ], characterized in that the guide elements (69-  
73, 77) include]] with substantially longitudinal guide  
surfaces [[ (70-72) ]] integral with said housing [[ (33) ]]  
and an elastic thrust element [[ (73) ]] adapted for  
urging the elongate mechanical body [[ (63) ]] against  
said guide surfaces [[ (70-72) ]].

2. (Currently Amended) The probe according to claim 1,  
wherein the electric switch [[ (31) ]] includes a spring [[ (53) ]] for urging  
the movable contact [[ (51) ]] against said at least one stationary contact  
[[ (44,45) ]].

3. (Currently Amended) The probe according to claim 2,  
wherein said electric switch [[ (31) ]] includes at least two stationary  
contacts [[ (44,45) ]], said spring [[ (53) ]] being adapted for urging the  
movable contact [[ (51) ]] against the at least two stationary contacts  
[[ (44,45) ]].

4. (Currently Amended) The probe according to [[one of the  
preceding]] claim[[s]] 1, wherein said substantially longitudinal guide  
surfaces [[ (70-72) achieve]] comprise at least a binary surface [[ (71) ]],  
the elongate mechanical body [[ (63) ]] including [[suitable]] surfaces

adapted for cooperating with said at least a binary surface [(71)] urged by said elastic thrust element [(73)] along a transversal direction.

5. (Currently Amended) The probe according to claim 4, wherein the elongate mechanical body [(63)] includes a pushing stem [(65)] and a transmission element [(67)], integrally coupled one with the other, the transmission element [(67)] defining said surfaces adapted for cooperating with [(the)] said at least a binary surface [(71)].

6. (Currently Amended) The probe according to claim 5, wherein the elastic thrust element [(73)] is arranged between surfaces of said housing [(33)] and a substantially plane portion [(77)] of the transmission element [(67)], the transmission element [(67)] defining a substantially spherical surface adapted for cooperating with [(the)] said at least a binary surface [(71)].

7. (Currently Amended) The probe according to claim 6, wherein the elastic thrust element includes a bent flat spring [(73)].

8. (Currently Amended) The probe according to claim 7, wherein the housing [(33)] of the electric switch [(31)] includes a longitudinal slit [(75)], the bent flat spring [(73)] being at least partially housed and locked in said longitudinal slit [(75)].

9. (Currently Amended) The probe according to claim 8, wherein the bent flat spring [(73)] defines an enlarged end [(74)] that partially and transversally extends out of the casing [(33)] through said longitudinal slit [(75)], the electric switch [(31)] including an annular locking element [(76)] adapted for cooperating with an

external surface of the housing [(33)] for preventing the falling of the bent flat spring [(73)] from the housing [(33)].

10. (Currently Amended) The probe according to [[one of the]] claim[[s from]] 4 [[to 9]], wherein the guide elements [(69-73, 77)] include a pair of cylindrical bars [(70,72)], said cylindrical bars [(70, 72)] define the guide surfaces that [[achieve]] comprise said at least a binary surface [(71)].

11. (Currently Amended) The probe according to [[one of the preceding]] claim[[s]] 1, wherein the movable arm-set [(3)] includes a transmission pin [(25)], substantially aligned and adjustable along said longitudinal symmetry axis, the transmission pin [(25)] being adapted for cooperating, further to displacements of the arm [(13)], with the mechanical transmission device [(61)] of the electric switch [(31)].

12. (Currently Amended) The probe according to claim 11 [[as depending from one of the claims from 5 to 9]], wherein said substantially longitudinal guide surfaces of the guide elements comprise at least a binary surface, the elongate mechanical body including a pushing stem and a transmission element, integrally coupled one with the other, the transmission element defining surfaces adapted for cooperating with said at least a binary surface, an end of said transmission pin [(25) is]] being adapted for contacting, further to displacements of the arm [(13)], the transmission element [(67)] of the elongate mechanical body [(63)].

13. (Currently Amended) The probe according to [[one of the]] claim[[s from]] 1 [[to 12]], wherein the movable arm-set [(3)] is supported in the casing [(1)] by means of a cone-ball coupling [(9,

5)]]], the movable arm-set and the casing defining annular surfaces [[(7, 11)]] adapted for mutually contacting and for causing, further to displacements of the arm [[(13)]]], longitudinal displacements of the movable arm-set [[(3)]] suitable for being transmitted, by means of said mechanical transmission device [[(61)]]], to the movable contact [[(51)]] of the electric switch [[(31)]]].

14. (Currently Amended) The probe according to [[one of the]] claim[[s from]] 1 [[to 12]], wherein the movable arm-set [[(3)]] is supported in the casing [[(1)]] by a coupling between [[the]] plane annular surfaces [[(7, 11)]]], the movable arm-set [[(3)]] and the casing [[(1)]] defining, respectively, a substantially spherical portion [[(9)]] and a substantially frusto-conical seat [[(5)]] adapted to mutually contact and to cause, further to displacements of the arm [[(13)]]], [[the]] partial disengagement between the plane annular surfaces [[(7, 11)]] and [[the]] consequent longitudinal displacements of the movable arm-set [[(3)]] suitable for being transmitted, by means of said mechanical transmission device [[(61)]]], to the movable contact [[(51)]] of the electric switch [[(31)]]].

15. (Currently Amended) The probe according to [[one of the preceding]] claim[[s]] 1, wherein the casing [[(1)]] encloses a sealingly closed chamber [[(19, 22, 34, 35)]] filled with inert gas, the electric switch [[(31)]] being arranged in said sealingly closed chamber [[(19, 22, 34, 35)]]].

16. (New) A touch probe, comprising:

a casing having a movable arm-set and an arm rigidly coupled to the movable arm-set;

a feeler coupled to said arm;

an electric switch adapted for detecting displacements of the movable arm-set, said electric switch comprising:

a movable contact; and

a mechanical transmission device for transmitting displacements of the movable arm-set to the movable contact, the mechanical transmission device including an elongate body between the movable arm-set and the movable contact, and an elastic thrust element for urging the elongate body against a guide surface.

17. (New) The probe according to claim 16, wherein said guide surface comprises substantially longitudinal guide surfaces of at least a pair of bars.

18. (New) A touch probe, comprising:

a casing having a movable arm-set and an arm rigidly coupled to the movable arm-set;

a feeler coupled to said arm;

an electric switch adapted for detecting displacements of the movable arm-set, said electric switch comprising:

a movable contact; and

a mechanical transmission device for transmitting displacements of the movable arm-set to the movable contact, the mechanical transmission device including an elongate body between the movable arm-set and the movable contact, and at

least a pair of guide surfaces for cooperating with the elongate body.

19. (New) The probe according to claim 18, further comprising an elastic thrust element for urging the elongate body against said at least a pair of guide surfaces.

20. (New) The probe according to claim 18, further comprising a spring for urging said movable contact against at least one stationary contact.